

Perfect Packaging Solution

Hot End –
Plant Maintenance

Cold End –
FlexInspect Logistics
and Manufacturing

Technical Services –
FlexIS Remote Service

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FleXinspect. Configurable inspection technologies for reliable process control



Configurable and Total

- > Up to 9 rotate stations
- > Servo driven technologies

Powerful and Reliable

- > Nema 12 enclosed electronics
- > Total defect to mold correlation
- > Servo rotators

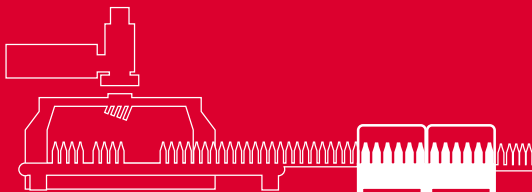
Simple and Flexible

- > 19" simplified human interface
- > Ergonomic maintenance access
- > High speed wide ware range

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Partnering for Perfect Packaging Solutions

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Baton Change in the Inspection Business



☞ Martin Jetter
(President Emhart Glass)

When Joseph F. Laundry decided to retire from his position as VP Cold End in August 2009, he could look back on an exciting and challenging business life in Emhart Glass.

He started in 1992 the MD of our Powers inspection business in Elmira, moved into many other management roles later, before he completed the last big challenge: to lead the acquisition and the successful integration of ICS/Inex into Emhart Glass. We owe him a lot, and we wish him a good time with his family and his old trucks for the years to come.

His successor, Jeff Hartung, is perfectly prepared to lead the demanding Inspection Business: since he joined Emhart Glass in 2004, he proved his capabilities in several Cold End management positions: he started as procurement, material and logistic manager, continued as operations manager, then he built up a new Technical Services unit, and finally he was responsible in addition for Marketing and Product Management. This is an impressive career, but there is a good reason for it. Read his own ideas and strategic approach below: he is willing to listen to customers and to provide with his organization whatever markets and customers are requiring. This is what really counts.

With best wishes



☞ Jeff Hartung
(Vice President Inspection)

These are exciting and challenging times for the Inspection Business of Emhart Glass. The recent economic crisis has forced a re-examination of our structure and the approach we take in serving our customers and satisfying their needs. In order to meet these challenges, we have launched several strategic initiatives – some of which you will read about in this issue of PPS:

> Restructuring our sales support approach to provide regional focus to the specific needs of our customers.

> Leveraging our combined expertise in Hot End and Cold End to better support the challenges of our customers.

> Launching a new product family of inspection machines to provide the flexibility our customers want and need.

> Working to partner with our customers so that their needs are translated into the products and services of tomorrow.

> Working to partner with our customers so that their needs are translated into the products and services of tomorrow.

In the coming months, I will be visiting existing customers and potential customers listening to them in order to better understand their needs and expectations. By doing so, I am confident of finding ways and means to better satisfy them while growing our inspection business at the same time.

Best regards



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Pre-announcement: The Glass Alliance

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HORN
GLASS INDUSTRIES

MSK
COVERTECH-GROUP

ZIPPE
GERMANY



Over the past few years, Emhart Glass has perceived a growing demand for “turnkey” glass container production facilities. In order to meet our customers’ expectations in this area, we have founded the Glass

Alliance, an informal co-operative arrangement with three other leading suppliers to the glass container industry: Horn, MSK, Zippe.

Working in partnership, the four members of the Glass Alliance will provide com-

plete turnkey plants, including not only the equipment that makes up a production line but also the services required to achieve a smooth and successful startup. Our aim is to be operational as a group by mid-2010.

The Glass Alliance stands for optimal solutions, independence, innovation, expertise, stability and global presence. For companies investing in new plants, working with the Alliance will mean a drastic reduction in project risk, with the core of the new production facility delivered by a single partner taking a holistic approach.

For regular updates on the progress and development of the Glass Alliance, please visit: www.glass-alliance.com

Emhart Glass Publication

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- > Manuals of our products
- > Brochures of our products

to download:

- > Brochures of our products
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- > Articles published in the trade press



Emhart Glass Website



Inspection Organization Changes

What is clear is that our customers, like ourselves, are facing increasing pressures: from rising quality standards in the industry to new emerging market demands all to be satisfied with fewer resources and lower operating costs. In order to meet these challenges, we have launched and completed several initiatives.

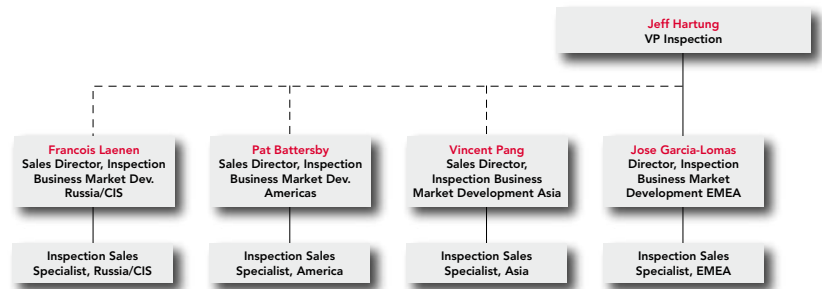
1. We have regionalized our Inspection Business market support approach.

- > Mr. Jose Maria Garcia Lomas will assume responsibility for the over all support of our inspection customers in Europe, Middle East and Africa.
- > Mr. Pat Battersby and Mr. Vincent Pang will manage the support for the inspection customers in the Americas and Asia Pacific respectively.
- > The Russian and CIS markets will be handled by myself in close cooperation with Mr. Francois Laenen.

This new approach will help us better serve and understand the unique needs of the various regions and markets.

2. The Technical Service Center formerly located in Madrid, Spain will relocate to Cham, Switzerland. This allows customers to visit one office to discuss Hot End and/or their Inspection needs. Additionally, by having Project Management and Sales Support under one roof there are improved synergies especially when both Cold End and Hot End equipment are supplied for a single project.

3. In addition, we are launching the FlexInspect product line. This product line truly



Sales Organization Inspection Business

reflects the successful integration of Emhart Glass and ICS/Inex engineering. The FlexInspect product line offers state of the art technology without compromise. It allows our customers to decide how they want to configure the machines to suit their inspection and investment needs. Customers can choose between high initial investment top of the line complete inspection or a lower initial investment that offers a platform on which to build, as desired, over time.

4. We are restructuring our product management, manufacturing, and after sales support functions in order to improve our abilities to quickly respond and adapt to our customers needs in all regions where we have installed and on-going projects.

These initiatives, as described briefly above, are just a few examples of how we are trying to change ourselves and adapt our processes to improve how we support our customers before, during, and after their investment decisions. I look forward to the end of the financial crisis and the opportunity to provide our customers the products and services they truly deserve as they strive for success and enhanced profitability.



The art of plant maintenance

Proactively inspecting and maintaining key components and mechanisms can make a huge difference to the efficiency and economy of a glass container production line – as well as improving the quality of the product itself. This article explains how Emhart Glass supports clients' efforts to maximise uptime and optimise their lines through 'active maintenance'.

The performance of modern production facilities is usually measured with a cost:benefit ratio: output and quality in relation to the production costs, both direct and indirect. In the glass container industry, Hot End performance is reflected by three key metrics: quality, output and uptime. Quality is determined by the number of defects produced on the IS machine. Output volume is mainly governed by the number of forming cavities available. Finally, uptime is defined as the time that a machine is not standing idle due to job changes, repairs or maintenance (whether scheduled or unscheduled). Output, quality and cost are directly related to the condition of the IS machine and its associated equipment. A well-maintained production line has a higher total output – mainly because there is less unscheduled downtime. This makes a significant contribution to the overall efficiency of the whole production line.

Maximising uptime

When gob-forming mechanisms fail during production, the entire line must stay down until the malfunction is repaired. These unscheduled interventions can lead to significant downtime, not to mention stress for those involved – with even more delay to comply with standard safety regulations. To maximise uptime, sensitive gob-forming components should be inspected, cleaned

and maintained on a regular basis. The same applies on the section level, scheduling maintenance, rather than taking an ad-hoc approach, means that repairs can be timed to coincide with job changes, when the machine would have been down anyway. Also, repairs can be carried out in a workshop environment, which is desirable for the quality of the work.

Maintaining for quality

Maintenance regimes also have an important influence on production quality. Precise mechanisms mean higher product quality and fewer defects, since the bottle-maker can adjust them to achieve the optimal setup. Operating with equipment such as mold-holders, inserts, neck-ring holders and take-out tongs in good condition is essential for maintaining stable output rates and quality. Conversely, worn-out accessories mean more defects – and also reduce the lifetime of other IS machine components. However, the benefits of proactive maintenance don't end there. A well-maintained IS machine consumes less energy, primarily because of reduced air leakage in its mechanisms. Every mechanical device is subject to wear during its lifetime. In IS machines, natural wear and tear on mechanisms and valves manifests itself as air leakage. This, in turn, increases the demand for compressed air, which is energy-



Christian Fröba
(Director After Sales)

Regular audits performed by Emhart Glass specialist helps to reduce cost





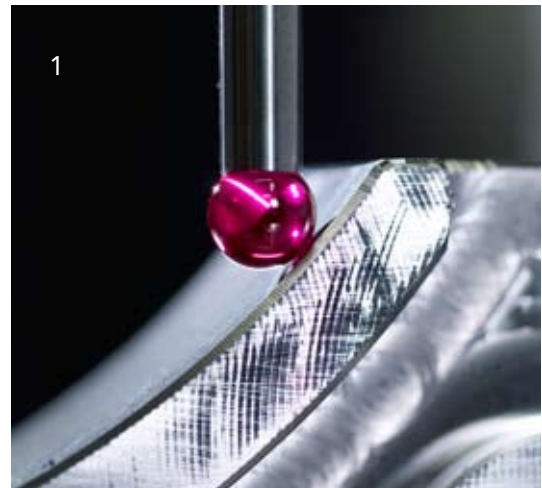
intensive to produce. By maintaining low-cost parts such as O-rings, seals and piston rings, the plants can make a significant dent in their energy costs.

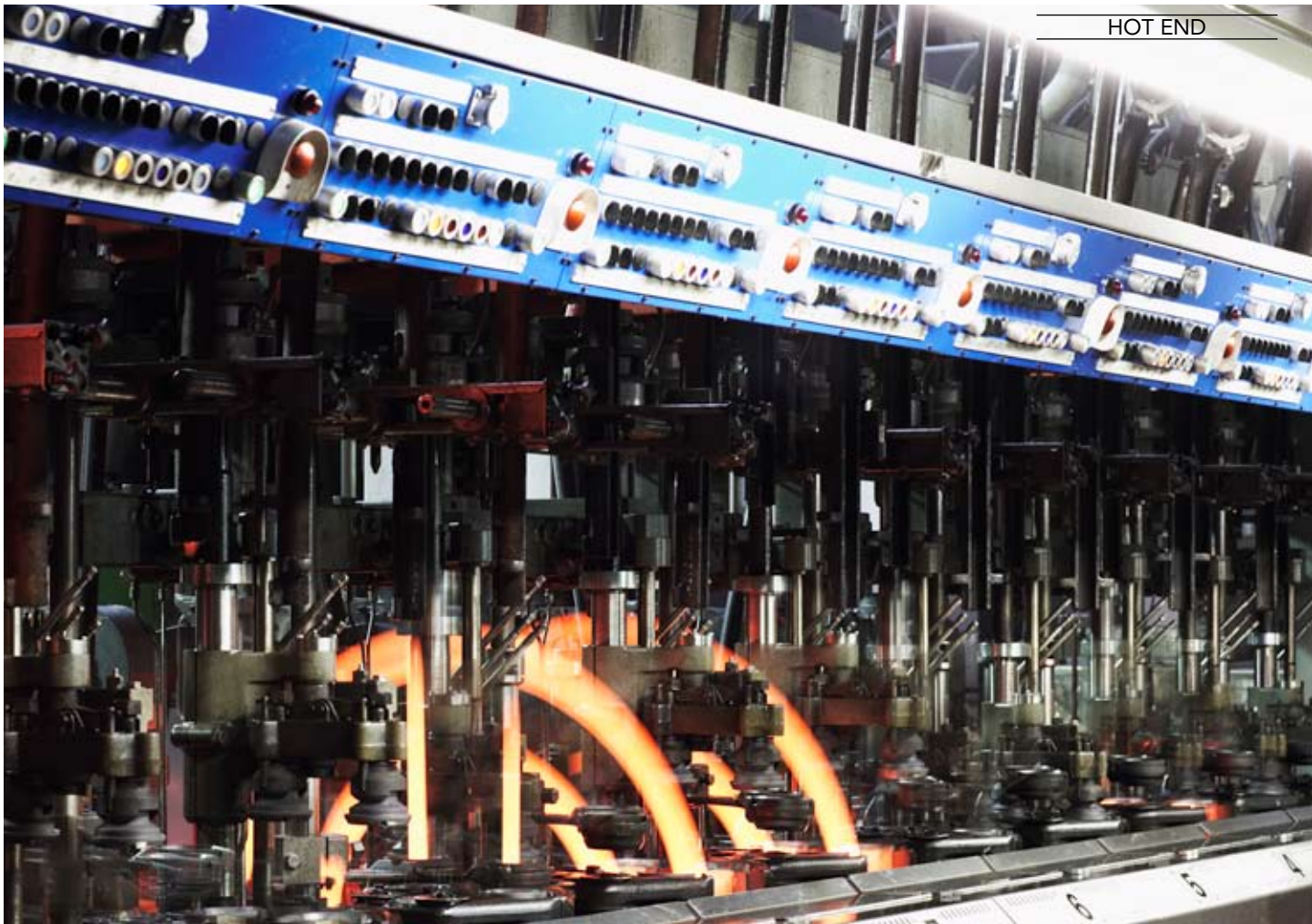
The part you need, when you need it

At Emhart Glass, we support our customers' maintenance programmes in many ways. Firstly, we offer by far the widest range of parts and accessories in the industry, at highly competitive prices. We've been providing efficient, long-lasting equipment for almost 90 years, and we support all our older equipment for a very long period with spare parts and accessories. The spare part delivery of our latest introduced products benefit from the high service levels as well from the short delivery times. Emhart Glass also offers a wide range of standard parts thus offering a one stop shopping opportunity. Recently, we launched a new initiative to ensure customers receive the parts they need within the shortest possible time from order to delivery. The S-Class initiative guarantees quick delivery of almost 5000 parts from either Sundsvall, Sweden (Hot End parts) or Elmira, USA (Cold End Inspection). Parts are shipped within 48 hours, arriving within 24 or 48 hours of shipping depending on the client's location. With S-Class, customers can reduce the spare parts they hold on-site and the amount of capital they have tied up in inventory. The list of parts available through S-Class can be viewed online at our website, with easy-to-use search functionality and lists of product groups and assemblies where each part is used. Availability, order status and prices can be checked online with our WebSphere online portal.

Handy repair kits

In addition to individual spare parts, we also offer predefined repair kits for our mechanisms. Each kit includes all the parts and components that need to be exchanged during the repair of a particular mechanism. It's a simple method to ensure a high-quality repair with original spare parts. We can also configure kits to meet individual customer needs, defining repair kits to ease the handling of components and facilitate stock keeping. All key spare parts are produced at the Emhart Glass facility at Örebro, Sweden. The plant has all the latest machining and hardening technologies required to produce superior quality parts, and is closely linked to our main Swedish site at Sundsvall. Our own logistics team partners with professional, reliable carriers such as DHL to ensure quick, smooth delivery of your order anywhere in the world. Parts are rapidly picked from storage, packed and shipped in order to meet delivery schedules. In addition to spare parts, customers' own maintenance efforts can also be supported and audited





by our experienced field service engineers. They can focus on every aspect of the line, from electrical systems to mechanics, as well as covering the production aspects as David Brown describes in his article. There's no doubt that making the effort to maintain container quality and reliable output pays off over the long term. As well as helping to improve every important performance measure, it also reduces cost through energy savings – and means fewer headaches for staff too! In our view, active maintenance is the only logical choice for better, easier and cheaper production. •

❏ 1 Almost 5.000 s-class parts helping to reduce customers inventory cost

❏ 2 Latest machining and hardening technologies at the Örebro plant

The future of mechanical inspection



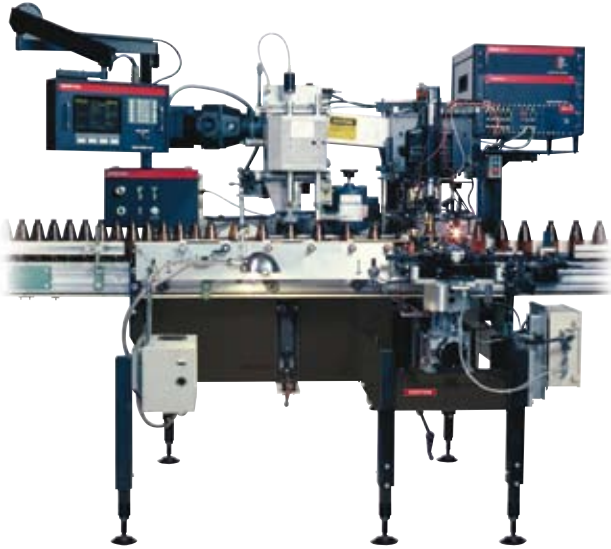
Steve Stimson
(Manager Inspection
Product Management and
Technical Services)

A gentleman by the name of Bud Powers (Powers Manufacturing) in Elmira NY, developed the Dual Head Gager (DHG) in the 1960s due to a need in the industry for more automation. It rapidly became the industry standard for plug, ring, dip and height measurements across the Globe.

Emhart Glass purchased Powers Manufacturing in 1982 and has delivered over 4000 units worldwide, with a majority of them still in operation today. With many improvements over the years, DHGs are still being manufactured in our Elmira facility today.

The Check Detector (CD) developed in the 1970s has a similar beginning, the need for inspection, increasing speeds and automation. Emhart has delivered nearly 2000 units worldwide and continues to be a leader in check detection. This unique inline machine is still a popular choice for many established glass plants. The success of these "Legacy" systems is based on their robust mechanical design, reliable operation, simple functionality and repeatable performance.

As we all know, time does not stand still, new developments and equipment made by Emhart's Hot End group have resulted in higher production speeds; Consumer quality requirements have escalated; Demands on production efficiency has increased. The DHG and CDs can no longer compete with today's line speeds. Being inline and mechanical in nature their speeds are now limited. This in-line, time tested design, is now distancing itself from the future.



☞ The Industry Standard for Plug, Dip, Height and Ring Gauging since the 1960's

With our Veritas products established in the premium and emerging markets, we are continuing our efforts with the next generation inspection systems. The FleXinspect-BC and FleXinspect-T are pushing the boundaries of higher line speeds, improved performance, expanded functionality and more non-contact inspections. At the same time, it has become apparent, there is a large part of the market that does not necessarily need or want the sophistication provided by these modern state-of-the-art offerings.

In the next few months we will be finalizing the specification and preparing an initial design of the new FleXinspect-M. The goal is to provide a low-cost rotary handling machine providing the same functionality as Emhart's existing CIM but at higher speeds and multiple ro-

tate stations. The CIM is a combined check, plug, ring, dip, and height inspection system with mold correlated data. The FleXinspect-M will perform all these functions using the latest high-precision technology, plus offer optional wall-thickness and out-of-round detection.

The concept has been prepared by an experienced team within Emhart and presented to key clients within the market. The feedback from our customers has been extremely useful and to help us refine the specifications and list priorities as we finalize the design.

The new FleXinspect-M will be developed with the same design philosophies as Bud used when he first put pencil to paper on the DHG design 50 years ago. Create a reliable robust machine that is simple to use and easy to maintain; a machine that meets the inspection requirements of the standard glass forming industry at an affordable price.

We look forward for the FleXinspect-M along with the other members of the FleXinspect family to be the new industry standard. •

☞ A New Standard to Meet Today's Needs





FleXinspect: Logistic challenges of a new development



☞ Marc Kaplan
(Manager Cold End
Logistics & Manufacturing)

The introduction of the FleXinspect product line challenged Emhart's Elmira manufacturing facility to take a prototype design and turn it into a production product that will meet the inspection needs of the glass container manufacturing market.

For success, the machine must achieve the three primary goals of any successful manufacturing operation: 1) deliver a quality machine that meets the customer's expectations, 2) deliver a machine when needed by

the customer, and 3) deliver a machine with a cost structure that provides value to the customer and a fair return to the manufacturer.

These three elements are interrelated, and all three must be achieved for success. Managing these elements is a challenge when manufacturing any complex machine, even when the design is well established, the production process is mature, and the reliability of the supply chain is known. With the

introduction of a new product line like the FleXinspect, these challenges are magnified. But with any challenge comes opportunity. With the introduction of the FleXinspect product line, the Elmira facility is reviewing and questioning all aspects of its production operation.

Elmira started with a review of the structure of the bill of material. Building a machine is more than gathering individual parts and putting them together. The quality of the final machine, the time it takes to build it, and how efficiently this is accomplished is closely related to the structure of the build sequence, the logical selection and flow of the subassembly operations, and the efficient and timely flow of material through the full production process. Developing a logical and efficient build structure is a vital step in the transition from a concept, to an operating prototype, and then to a production machine. Although studying machine drawings and engineering documents is the first step, the actual construction of several pre-production machines is where the real work takes place and needed refinements are identified.

Taking the opportunity to strengthen the supply chain is also an important element in the introduction of a new product. What are the manufacturing activities best done internally? Where do we excel? What are the activities best done by dedicated suppliers?



What activities are strategic to our business? What activities must we maintain to ensure manufacturing flexibility and timely service part support? Elmira is addressing these questions and is evolving the focus of our supply chain from discrete components to qualified systems.

Finally, although Emhart Glass inspection machines undergo functional testing and inspection prior to shipment, testing of the electronic subsystems prior to final assembly reduces the time required for the machine level testing. This in turn improves the quality of the shipped machine. To support the FleXinspect products, new test stands are in development to test the function of the major electronic subsystems prior to installation on the machine, including duplicate test stands for critical components at our strategic suppliers.

This is a dynamic and exciting time within the Elmira manufacturing plant. The introduction of the FleXinspect is creating the opportunity to review our production assumptions and systems. The result will be a quality machine that meets the expectations, delivery and value needs of our customers. •

 Total inspection with FleXinspect



MiniLab: Return on Investment – Quantified and Justified!



In our first article, you will recall that we quantified our position by presenting a Return on Investment (ROI) to our customers, with emphasis on the MiniLab ISIS and MLP. This ROI easily demonstrates that attention to glass container production statistics and trends provided by Emhart Glass MiniLab, our customers see an immediate savings, decrease in labor, improved overall container quality and increased production pack.

In this follow up article, we would like to share some of that data gathered and illustrate a real world payback ROI scenario. This article also justifies the importance of investing in the MiniLab and Emhart Glass as a technology partner.

As a refresher, the first article discussed six steps in creating the ROI presentation.

- Part 1 - Critical, Major, and Minor Defect Categorization
- Part 2 - Manual Sampling by Quality Control personnel
- Part 3 - Time consuming Go, No-Go testing
- Part 4 - Mold Trending Analysis
- Part 5 - Formulas to calculate savings based on Mold Trending
- Part 6 - Interactive Spreadsheets that demonstrate ROI

(Note: to learn more about these 6 steps please refer to PPS 1-2009)

MiniLab ROI Campaign

The MiniLab ROI campaign began in February of 2009 when we selected one of our customer's without a MiniLab installation and presented them with our calculations. The intent was to get the customer to critique our calculations, procedures and the content of the ROI. The results were outstanding, with no serious flaws in any of the formulas; our customer was extremely excited about the program used, and the immediate savings it generated.

Since February, we have continued to research the data and fine tune the ROI with several key glass companies' in England, Poland, South America and the US.



Mike Bagley
(Product Manager Statistical and LAB Inspections)

Less than 1 Year ROI

Initially, many customers had difficulty believing the savings generated by using the MiniLab. After filtering through the detail of our data and calculations they now share our enthusiasm. These customers continue to give us incredible feedback and recognize the ROI data as providing savings, trends and process control on their lines. The MiniLab ROI data is real. Our calculations and interactive spreadsheets are so thorough, our customers have requested copies for internal use and to use for their own customer presentations. Before actual in plant testing began, the ROI was showing **less than a one (1) year payback**. With such a fantastic short term pay-back, we were skeptical about the information generated which made us check and recheck our math. We tested the data and theories of the ROI in our Clearwater and Elmira facilities. Our calculations were indeed correct and the Return On Investment was actually quicker than we originally anticipated. After completing the ROI presentation in its present form, it was time to input real world data from a customer's site. The MiniLab ISIS and MLP's ROI came in 25% better than previously expected. See customer's site results below.

ROI Results

Grand Totals of Possible Savings	Commodity Items	Mid-Range Items	Premium Items	Ultra-Premium Items
SAVINGS/YEAR Mold Rejects	85,050	141,750	236,250	315,000
Reselect Bottles and Labor	290,587	315,000	330,750	409,500
QC LABOR SAVINGS/YEAR @ \$30 USD / HOUR	177,187	126,000	94,500	94,500
TOTAL	552,824	582,750	661,500	819,000
MiniLab Price	350,000	350,000	350,000	350,000
ROI (months)	7.60	7.21	6.35	5.13

The results above were calculated with actual plant information based on 90% pack. Not all plants will experience the same payback time, each plant will differ on price of container, losses by mold, reselect and labor, and amount packed.

Undisputable Experience

Our experience with automatic dimensional measurements began in 1989 with the invention of the Prolaser. The Prolaser used a scanning laser micrometer to

measure the dimensions of a glass container. The introduction of the Prolaser rapidly became the standard of the glass industry for automatic dimensional measurements. With the knowledge base and experience gained from the Prolaser, the MiniLab ISIS automated dimensional measurement system evolved.

Largest Install Base

Emhart Glass has the largest installed base of MiniLab (ISIS dimensional measurement system) in the world. Our MLP (internal pressure and capacity measurement system) has patent pending technology with more capabilities than our closest competitor. Our long time knowledge of the statistical sampling methods and equipment used over the last 20 years provides Emhart Glass with the ability to incorporate new ideas for measurement and features for process monitoring not available from any of our competition.

"The MiniLab system fits our production style of hands-off automation. It accepts bottles as they exit the Lehr and performs all tests without human intervention. We receive data from the cold end inspection equipment in real time allowing us to react immediately if container specifications do not meet set standards."

Oliver Wiegand,
Managing Director, Wiegand-Glas
Glass Worldwide Magazine
issue eighteen 2008

Successful Installations

Based on the successful efforts of everyone involved bringing the MiniLab to market, the MiniLab is not only quantifiable, **but now justifiable**. Many of the largest glass companies in the world have installed MiniLabs or are considering MiniLab purchases for the first time. For a review of one or all of your production lines, please contact your Emhart Glass Sales Representative and start saving today. •

COLD END

Chromatic Wall Thickness Measurements Explained

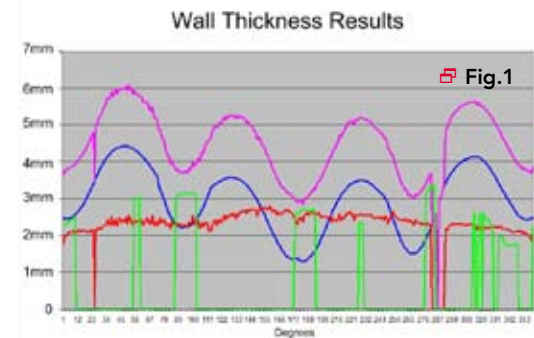
Emhart Optical Head



Manny Bonnewitz
(Principal System Engineer)

The new Emhart Optical Head (EOH) for wall thickness measurements provides precise non-contact measurements without moving parts or active electronic components. It's compact 30mm diameter size allows positioning into difficult locations on the container. With its 10mm measuring range the EOH can be used for shoulder, neck, base and multiple points along the body of the container. The optics within the EOH provide +/- 15 degrees of angular movement while maintaining accurate measurements and ease of adjustment. The EOH can measure a wide range of glass container colors, shapes, and thicknesses from .1mm – 35mm. It provides readings from uneven and embossed surfaces as well as non-round con-

tainers. The 44mm working distance keeps the EOH at a safe working distance from the container. This technology can also measure the out of roundness of glass containers. Up to 4 EOH's can be used in the system.



Container types ideal for this type of measurement technology



Non-round containers were measured with various technologies. (Fig.1) is a direct comparison plot from another technology (green line) and the EOH (red line). Note the amount of coverage between the technologies. The purple line is the container inner surface the blue line is the outer surface.

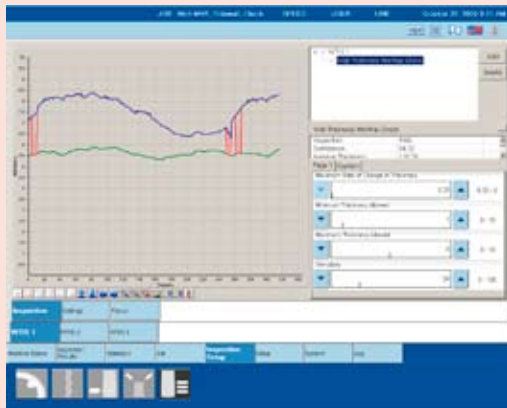
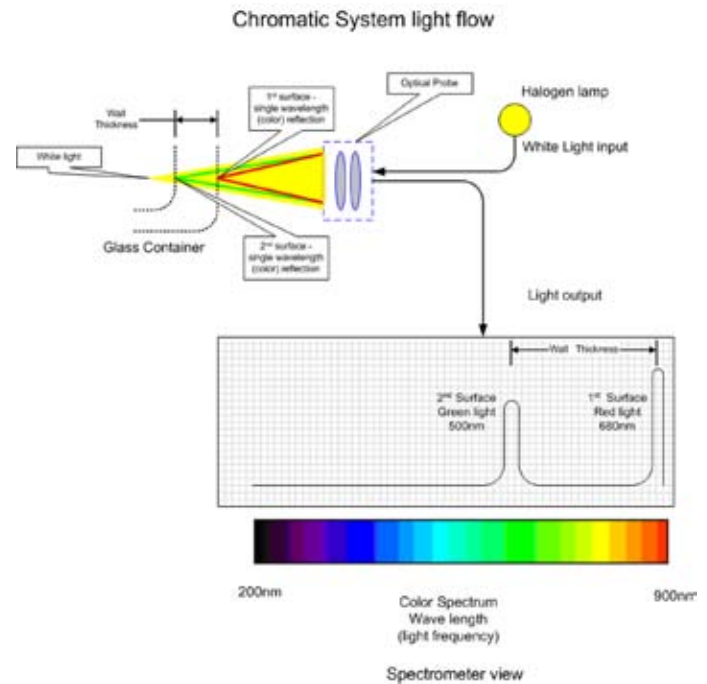
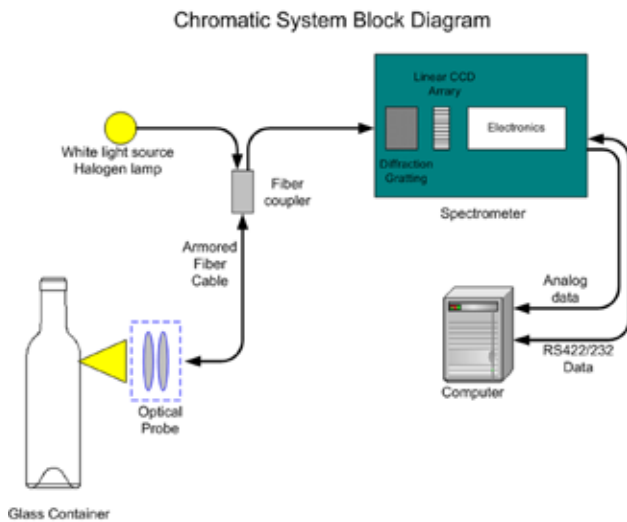


Fig.2

Typical setup screen (Fig.2), the green line shows the distance to the first surface (outside container surface), the blue line is the second surface (inside container surface), the difference between the two lines is the wall thickness. The red indicates the measurement is outside the set limits. The graph shows the number of samples across the horizontal axis and the value in millimeters or inches in the vertical axis. The system is capable of measuring up to 4000 sample points per second.

The system consists of the following

- > The Halogen lamp produces white light that is coupled through the fiber cable and directed onto the container through the optical Head.
- > The Fiber coupler combines the white light to the container as well as the single color light reflected from both the internal and external surfaces of the glass container
- > The Armored Fiber cable directs the light from the Halogen lamp to the optical head and from the optical probe to the spectrometer allowing a rugged yet flexible connection to the optical head.
- > The Optical Head has lenses with known chromatic aberrations in an aluminum housing that direct the white light onto the container while collecting a single wavelength (color) from both the 1st and 2nd surface of the glass container.
- > The Spectrometer is used to collect the 2 single wavelengths (colors) reflected from both internal and external container surfaces. It converts these wavelengths of light to an output signal with the distance between the 2 surfaces. This is calibrated by using the refractive index of glass and produces measurements that match the hall effect measuring devices which are used by quality control technicians within the glass plant.
- > The Computer collects these data points as the container rotates or passes in front of the optical head. From this data we can determine the minimum and maximum thickness as well as the distance from the EOH to the container (used to determine the containers ovality or roundness). These measurements are compared to user programmable thresholds to determine if the container is within allowable tolerances. The container is rejected if it falls outside the set thresholds. The measurements are also displayed on the user interface. •



Your solutions for better applying your equipment

Emhart Glass Hot End Service Products - In the last PPS magazine, six months ago, we introduced our new Hot End Service Products. How well have these new technical service products been accepted in the market?



 William Grüninger
(VP Technical Services)

Customer Process Support

In this area, Emhart Glass offers a portfolio of six different services, such as:

- > Accessory Selection: Your solution for the right choice of accessories
- > Mold Cooling Analysis: Your solution for controlled mold temperature distribution
- > Forming Simulation: Your solution for a stable forming process
- > Container Producibility Analysis: Your solution for distinguished glass container production

- > Container Property Analysis: Your solution for reliable high performance containers
- > Mold Equipment Drawing Set: Your solution for an effective mold design

The interest for any of these products by our customer is very high. We are issuing two to three quotes every week. Two thirds of these quotes are resulting in orders. We have received many orders from repeat customers; however, for most customers this is the first time ordering these technical service products.

The orders come from all six continents. Interestingly, not only glass container plants are asking for this kind of support, but also fillers, looking for performance enhancements of their filling lines, are contacting us.

Looking at the processes, our customers have equal needs for process support in the three major forming processes: Blow and Blow, Press and Blow, and Narrow Neck Press and Blow. Within the Blow and Blow process, the target is mainly to reduce the container weight gradually. In many cases 5% to 10% weight reduction is achievable.

Despite the strong market demand for our Service Products, in 75% of all cases we can deliver a first report within 10 working days. This first report is then discussed in detail with the customer's specialist and further fine tuned to better fit the customer's actual situation in terms of internal standards and available mold equipment.

Technical Assistance Agreements (TAA)

Market interest in Technical Service Agreements is very high. Emhart Glass has signed another Technical Assistance Agreement (TAA) that has started and shows first good

results in terms of continuous elimination of critical defects, decreased level of complaints, and higher percent pack. Both the customer and Emhart Glass are confident that these results are sustainable. Within this TAA, the main focus is in the elimination of potential finish defects through improved parison and blank design, as well as enhanced handling and maintenance of mold equipment. Another focus point is the introduction of new articles. The customer has decided to extend into the production of wide mouth containers (jars). The TAA helps the customer to develop and optimize the Press and Blow forming process much faster, making it more efficient and less risk prone. In close cooperation between the customer's specialists and Emhart Glass' specialists, issues are being identified, production tests conducted, results analyzed and judged, and, finally, solutions verified.

Currently an audit is being carried out with another customer with the target to define a TAA that will help the customer to transition from his current forming machine technology to Emhart Glass forming technology, in particular AIS and NIS machines. The intention is to sign the TAA early 2010, well in time for the re-machining program of the customer's four plants over the next five years. •



Summary and outlook


Today during every customer meeting, Emhart Glass Sales presents the Service Products, not only those mentioned above but also the other Service Products in the area of Project Management, Customer Service and Training. Descriptions for all the service products are available on the Emhart Glass web site (www.emhartglass.com).





Machinery Audits? – What's the point!



 Dave Brown
(Customer Service Manager)

Regardless of the industry or personal situation. When we think about cost, the normal question that is always asked is "what is the return on investment and what do I get for my money?"

With Emhart Glass having the focus on partnering and supporting you as our customers and assisting you to be as profitable as possible, we are continually asking the question "what more can be done to predict your needs for tomorrow".

The profit of a Glass Plant is dependant on a multitude of aspects that must be co-ordinated and managed in a way that ensures the maximum return on any investment. All parties including shareholders, owners, employees and customers would openly agree that a continuous running plant with the maximum profit is the measure of success.

With this in mind, it is a fact that just around the corner there is a piece of equipment

somewhere in every glass plant that is on the verge of breakdown, whether it is through lack of maintenance or a life time of use.

So how do you reach a good balance of output against cost to give the required profitability? And why should you invest in things that do not give an immediate return of investment?

The Glass industry is continuously faced with fierce competition from alternative packaging solutions which potentially provides reduced returns to the glass industry shareholders. Therefore change and reform is imperative to remain competitive.

Who would feel comfortable to make the statement that the piece of equipment about to fail as you are reading this article should have been known about, and not truly understand why it cost a whole day or more of unplanned production losses when there was no proactive initiative to ensure the condition of equipment was fully understood.

Many organizations have utilised audits in safety, quality, or environmental and financial management, but few have considered machinery audits as a way to impact performance and profitability.

Audits provide framework and benchmarks for continuous improvement for three key areas - management, systems and procedures, and personnel resources. They are associated with investigation and reform. However, they can also drive change through a clearly defined improvement process and this ultimately plays a key part of sustained profitability.

The key to the effectiveness of the concept of regular audit program is not to have the

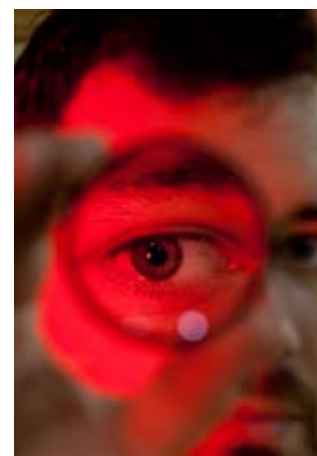
program in place that informs all parties of the condition, but it is to have the ability to analysis such results and ensure that the results lead to the execution of a plan to define requirements that are imperative to the normal plant maintenance and repair. This is where the unplanned equipment failures are minimised and profitability is sustained.

Within the Technical Services organisation of Emhart Glass, the capabilities with regard to hot end machinery audits has recently expanded to all areas of the glass forming process from 'Mechanical and electrical auditing' to 'Production and mold equipment and design auditing'. The advantage of many Glass Container manufacturers that accept the cost of such activities is believed to pay back over and above the investment made due to the cost of the unknown failures that do not occur. The total cost impact, should there be no audits performed, will never be able to be fully understood.

Imagine if a regular audit program would highlight required maintenance that allows a higher production percentage for a longer period of time or even extend the life time of a machines operation. Would this be advantageous and a direct payback for the audit program to taking place? This is without doubt, the fact.

Think about the possibilities to take advantage of the resources of Emhart Glass technical expertise and step into an audit program tailored to your need so that you can see this long term profitability increase that we all strive to achieve.

For further information and interest in a machine audit program please contact us on www.emhartglass.com or contact your local Emhart Glass Sales office. •



Coming soon from Emhart Glass: FlexIS Remote Service

What is FlexIS?

FlexIS is the foundation for the control and automation of the forming machine. As well as controlling the NIS, AIS, IS and SIS machines, as stand alone system, the FlexIS also controls feeders, shears, gob distributors, FlexPusher, ware handling, servo invert and servo take out mechanisms.

Remote Service will be a service applicable to all FlexIS controlled products.



✉ Christian Brändli
(Project Manager FlexIS Remote Service)

In the past, IS machines were mainly mechanical. But over time, largely due to the increasing use of FlexIS controls, they have become much more electric and electronic devices – and the number of service requests we receive related to FlexIS controls is growing every year.

Many FlexIS service requests could be quickly resolved using remote access, with no need for a site visit. It's efficient and cost-effective - that's why we are investing in remote services to our clients.

FlexIS Remote Service is our forthcoming service for customers using IS machines with FlexIS controls. Using our new Remote Service Platform, we establish a secure Internet connection to the FlexIS. Initially, the service will be available in English and German during European office hours. Experienced FlexIS Remote Service specialists will be able

to carry out in-depth diagnoses on clients' FlexIS systems using special software tools. They can correct machine and job setups as well as providing technical assistance and tips and tricks (tele teaching).

Remote Service specialists can also access a network of remote service experts and R&D specialists across the entire Emhart Glass organization, if additional help or knowledge is required.

For customers, FlexIS Remote Service means valuable assistance to master their complex FlexIS controls and the opportunity to reduce machine downtime. In many cases, a time-consuming and costly on-site service trip can be avoided. FlexIS Remote Service is currently being beta-tested with a select user group. Rollout of the full service to all Emhart Glass clients is scheduled for the second half of this year. •

The future is healthier, tastier, and classier

Glass, maybe the oldest packaging material in the world, is still a step ahead of its competitors. Recent discussion in the media and public on chemicals like Bisphenol A in plastic bottles, drifting plastic garbage in oceans and a rising public awareness to eat and drink healthier, has led to an increased awareness of glass as a sustainable packaging material.

According to a survey of 6,200 European households released in April 2009 by FEVE (www.feve.org), the European Container Glass Federation, three quarters of European consumers say glass is their preferred packaging material for food and beverages. The large scale survey carried out across 12 European countries is believed to be one of the most comprehensive ever conducted within the packaging industry.

Glass was voted the favorite packaging material of the customers. Half of those surveyed believed that glass has a more positive impact on the environment than other packaging materials such as plastics, metal cans and carton. They ranked glass as the most environmentally-friendly packaging product, backed up by the fact that it is 100 per cent fully-recyclable and re-usable. And 48 per cent say glass is the safest packaging material for health reasons.

The survey shows that customers are increasingly putting health and environmental needs over convenience: 45 percent of European consumers said that, if given the choice at their local grocery shop, they would pre-

fer glass containers for their water and fruit juices, for example. These results of the consumer survey are extraordinary and confirm that glass is part of consumers daily lives and is hugely popular.

Glass is strong also in design and its ecological impact. It has built up some of the most iconic brands, and helped build up recycling infrastructures to keep glass inside a closed loop system. Packaging trends will come and go but only sustainable, integrated packaging solutions will survive in the long term. Glass has proven for thousands of years not only to serve the fundamental needs of the industry to pack and preserve food and drinks, it also has proven to be a material, serving the needs of today's more health and environment conscious society.

The President of FEVE sums the results up: "Europeans find glass the most recyclable and environmentally-friendly packaging material and they prefer glass because it preserves taste and protects against contamination." In other words: the future belongs to glass. •



Adeline Farrelly,
Secretary General

FEVE –
The European association
for container glass

Become a Friend of
Glass - Join us at
www.friendsofglass.com

For more information on
the survey, please contact
the FEVE secretariat:
secretariat@feve.org





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Address

Emhart Glass SA
Hinterbergstrasse 22
6330 Cham 2, Switzerland
Telephone: +41 41 749 42 00
Telefax: +41 41 749 42 71
www.emhartglass.com

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M. Debrot (Cham)

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